

CLAIMS

1. A system for conveying flexible fabric items such as linens, comprising:
 - a main conduit having an input end for receiving said items and a discharge end for discharging said items, said main conduit providing a substantially enclosed path for conveying said items from the input end to the discharge end;
 - a selected portion of said main conduit having a substantially straight conduit section presenting a longitudinal axis;
 - an angled pipe connecting with said conduit section and having an axis arranged at an acute angle to said longitudinal axis;
 - a blower having a suction side and a discharge side for forcing air from said discharge side through said angled pipe and into said conduit section;
 - a restriction in said selected portion of said main conduit in proximity to the connection of said angle pipe with said conduit section to effect a low pressure area adjacent said restriction when air is forced through said angled pipe into said conduit section, thereby drawing air through said main conduit to convey said items from said input end to said discharge end;
 - a vent in said main conduit at a location downstream from said restriction and upstream from said discharge end of the main conduit for allowing escape of air from the main conduit between said restriction and said discharge end; and
 - a return conduit extending from said vent to said suction side of the blower.
2. A system as set forth in claim 1, wherein said vent comprises a gap in said conduit extending substantially continuously around the conduit.
3. A system as set forth in claim 1, including a sleeve on said conduit slidable thereon to control the exposure of said gap.

4. A system as set forth in claim 2, including a mesh applied to said conduit at said gap.

5. A system as set forth in claim 1, wherein the size of said vent is adjustable.

6. A system as set forth in claim 1, wherein said vent is located no closer than approximately 10" away from said restriction.

7. A system as set forth in claim 1, including an inside pipe in said selected portion of the conduit spaced inwardly from said selected portion to provide said restriction between said inside pipe and said selected portion of the conduit.

8. A system as set forth in claim 7, wherein:
said selected portion of the conduit is substantially cylindrical; and
said inside pipe is substantially cylindrical and is generally concentric with said selected portion.

9. A system as set forth in claim 8, wherein:
said inside conduit has open upstream and downstream ends and forms part of said path.

10. A system as set forth in claim 9, wherein said downstream end of the inside conduit is spaced downstream end of the inside conduit is spaced downstream from the connection between said angled pipe and said conduit section.

11. A system as set forth in claim 9, wherein:
said conduit includes a substantially cylindrical pipe adjacent to said conduit section and providing an inlet thereto;

said substantially cylindrical pipe has a diameter substantially equal to the diameter of said inside conduit; and

said substantially cylindrical pipe has an end spaced upstream from the upstream end of said inside conduit.

12. A system as set forth in claim 1, including a manifold substantially surrounding said vent for receiving air passing through the vent, said return conduit having one end connected with said manifold and another end connected with said suction side of the blower.

13. In a pneumatic conveying system for flexible fabric items that are to be laundered, the combination of:

a main conduit having an inlet for receiving said items and an outlet for discharging said items, said main conduit providing a flow path from said inlet to said outlet and including a substantially straight conduit section;

a venturi having an angled pipe joining said conduit section at an acute angle and a restriction in said main conduit situated in proximity to a location at which said angled pipe joins said conduit section;

a blower having a suction side and a discharge side for forcing air from said discharge side through said angled pipe into said main conduit to effect a low pressure area adjacent said restriction to draw said items through the main conduit;

a vent in said conduit between said restriction and said outlet; and

a return conduit extending from said vent to said suction side of the blower.

14. A combination as set forth in claim 13, wherein said vent comprises a gap in said conduit and including a screen mesh covering said gap.

15. A combination as set forth in claim 14, including a sleeve on said conduit adjustable thereon to vary the exposure of said vent.

16. A combination as set forth in claim 13, wherein the exposure of said vent is adjustable.

17. A method of conveying flexible fabric items through a conduit, comprising the steps of:

providing a venturi in said conduit at a selected location;

using a blower having a suction side and a discharge side to force air from said discharge side into the conduit through said venturi to effect a low pressure area in the conduit for drawing said fabric items through the conduit;

providing a vent in the conduit at a location downstream from said selected location to vent some of the air from the conduit through said vent; and

directing return air from said vent to said suction side of the blower.

18. A method as set forth in claim 17, wherein the step of providing a venturi includes providing an angled pipe connecting at an acute angle with said conduit.

19. A method as set forth in claim 18, wherein the step of providing a venturi includes providing a restriction in said conduit in proximity to a connection of said angled pipe with said conduit.

20. A method as set forth in claim 17, wherein said step of directing return air comprises collecting air discharging through said vent in a manifold and providing a return conduit in extension from said manifold to said suction side of the blower.